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CATEGORIZATION IN SOCIAL JUDGMENT

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Categorization in Social Judgment [1]

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Contrasting evaluations by members of different groups are commonplace as illustrations of the effects of differing social norms or of differential contacts with a class of objects (e.g. technological devices or monetary values). The possibility that the number and kind of evaluative categories used in different groups may also vary is less frequently considered. Yet such differences are implicit in many misunderstandings and controversies between groups.

The research reported here investigated the number, kind and width of categories used by individuals from two sociocultural backgrounds. A preliminary survey permitted independent estimates of latitudes of acceptance prevailing in American Indian and non-Indian student populations and the scaling of verbal items to be used in an experiment. The experiment studied categorizations of three sets of social objects and one neutral series, as functions of the latitudes of acceptance prevailing in the two populations and the range of the series presented for judgment.

Following Sherif and Hovland (1961), latitude of acceptance is defined as that range of stimulus values placed into acceptable categories by the individual. Latitude of rejection refers to that stimulus range placed into objectionable categories. $\underline{S}$'s established categories are revealed more clearly when instructions do not impose a certain number of categories or suggest that he distribute judgments in specified ways. Sherif and Hovland (1953) had the same $\underline{S}$s judge statements with instructions prescribing 11 categories and with instructions to use any categories they thought appropriate. Those $\underline{S}$s who were strongly committed to

extreme positions on the issue which the statements concerned neglected some of the 11 categories and their judgments clustered preponderantly in categories objectionable to them. With free choice of categories, these $\underline{S}$s used fewer categories and bunched even more items into the negative end category.

The skewed distributions of judgments were compared with those produced by anchoring stimuli markedly discrepant in value from those of series stimuli judged in a psychophysical experiment (e.g. Rogers, 1941; Sherif, Taub and Hovland, 1958). The categories which $\underline{S}$ regards as acceptable were conceived as anchors or standards. Thus, judgments of stimuli discrepant from the latitude of acceptance exaggerate the discrepancy ("contrast effect"), while stimuli close to the latitude of acceptance are assimilated to it.

It is well known that judgments of intermediate stimulus values within a restricted or "truncated" series shift systematically when $\underline{S}$ is then exposed to the entire domain of a se'. (McGarvey, 1943; Fehrer, 1952). Therefore, anchoring effects of the latitude of acceptance would be expected to vary in terms of the range of stimulus values immediately presented for judgment. Indeed, the influence of conceptual-motivational variables is necessarily inferred from their interactions with immediate stimulus variables (cf. Sherif and Sherif, 1953; Helson, 1959).

Tests of the hypotheses in the present experiment assume samples drawn from two sociocultural settings or from groups with differing latitudes of acceptance for specific sets of social objects, and experimental methods suitable for both samples which permit $\underline{S}$ free choice of categories to be used ("own categories" procedure).

The following hypotheses were tested:

1. The number of categories used will vary with the range of acceptability

values in the series and with the significance of the item content, rather than number of items presented.

2. Category widths for placement of neutral items (numerals) will vary directly with the length of the series.

3. Category widths for placement of two sets of objects in numerical form, one with and one without social significance, will differ.

> a. Category limits for series of numerals will reflect decimal divisions permitting the series to be distributed as equally as possible into the categories.
>
> b. Category limits for series of dollar values will reflect established categories in $\underline{S}$s' reference scales of expenditures for a specified commodity.

4. The distributions of social items into categories will differ as determined by interactions of established latitudes of acceptance with the range of series presented.

> a. A series representing the entire evaluative domain of the set, as compared with a series of largely acceptable items, will result in a larger proportion of acceptable categorizations of intermediate items.
>
> b. When the series markedly exceeds the prevailing latitude of acceptance, and proportional to the excess, judgments will be bunched into a broad, extremely objectionable category (revealing a contrast effect, with the acceptable categories conceived as the anchor location).
>
> c. Broad latitudes of acceptance, relative to the range of the series judged, will result in distributions of judgments skewed

in the negative categories and pronounced heightening of the
general series effect predicted in 4a (revealing an assimilation
effect).

Estimates for the Two Populations

A survey was made to obtain independent estimates of the latitudes of
acceptance prevailing in two populations and of scale values in each population
for the verbal items to be used in the experiment.

Subjects

The populations were students in two fully accredited high schools in
Oklahoma. One consisted of white, English-speaking students at the only public
high school in a small university city and the other of bilingual American Indian
students (about 85% Navaho) attending a federal school. Questionnaires were
administered to classroom groups taking required courses scheduled for each hour
during one school day. Population estimates are based on responses of 162 white
Ss (85 males, 77 females) and 172 Indian Ss (100 males, 72 females), approximately
equally distributed among the secondary grades. Indian Ss were, on the average,
about two years older than white Ss, because attendance at a public high school
had been delayed by circumstances beyond their control, such as inaccessibility.

Materials

The questionnaire was introduced as a "youth survey." For the present
research, 66 judgments were obtained from each S. Three of these were estimates
of dollar values for the "most I would even think of spending" for a warm winter
coat, "the cheapest coat I would buy and wear," and for the probable price "I
would pay." Forty-seven were ratings of brief descriptions of social behavior
on 11 cm. linear scales with extremes labeled "Perfectly all right" and "Absolutely

the worst." The behavior items described actions governed in most adolescent groups by well-defined social norms, varying from such completely acceptable actions as "Kissing your date good night" to extremely objectionable actions, such as "Slapping your parent in the face." Finally, 16 ethnic or national groups were rated on 11 cm. linear scales with extremes labeled "Want most as a friend" and "Not want as a friend."

Survey Results

Only those general comparisons basic to the outcome of the experiment are summarized here. (For detailed results, see C. Sherif, 1961).

The latitude of acceptable prices for a coat consisted of lower values for Indian than white $\underline{S}$s. Median tests of the differences in minimum, maximum and probable prices yielded significant chi-square values ($p < .001$, 1 df. in each case).

Ratings of the behavior items and group names were measured to the nearest centimeter on the 11 cm. scales. As expected, item variability for the behavior descriptions was small. Scale values ranged from entirely acceptable (0) to extremely objectionable (11). More items had scale values at the objectionable end of the scale for Indian than white $\underline{S}$s, but on the whole differences between samples were small.

In contrast, all median ratings of the 16 group names by both samples were within the segment of the scale near the acceptable end (0), suggesting awareness of recent normative trends toward tolerance. The range of scale values was 0-7 for white and 0-5 for Indian $\underline{S}$s. However, the two samples differed in scale values for given groups and in the frequency distribution of scale values. Five of the Indian medians were 0(American Indian, Spanish-speaking American, White native-born, English, Mexican) and five were at their least acceptable scale value (Norwegian, Arab, African Negro, Russian, Jew). That is, Indian $\underline{S}$s tended to

dichotomize the groups between their most and least acceptable ratings. White
$\underline{S}$s, on the other hand, differentiated finely between their extreme ratings, only
one group having a scale value of 0 (White, native-born) and one (African Negro)
a value of 7. On the average, item variability was almost twice that for the
behavior items in each sample, suggesting relatively lower consensus.

The Experiment

In the experiment, each Indian and white $\underline{S}$ judged four different series of
items at one session: a series of numerals, a series of identical numerals with
prefixed dollar signs, descriptions of behavior, and group names. The three series
of social content were presented in all six possible orders, the numeral series
being presented last.

Half of each sample was presented "short" series, consisting largely of items
estimated as "acceptable" from the survey. The other half was presented a "long"
series containing items of the "short" series and an equal number with intermediate
and unacceptable scale values. At the first experimental session, $\underline{E}$ tossed a
coin to determine presentation of "short" or "long" series and thereafter alternated
presentation of the two series lengths in succeeding sessions. White $\underline{S}$s were
scheduled for participation by telephone at times convenient to them. Indian $\underline{S}$s
were assigned times in the order that they volunteered.

Subjects

Thirty-two white and 40 Indian $\underline{S}$s participated in the experiment on a volunteer
basis. Age differences were comparable to those in the populations (medians: 16
years for white and 18 years for Indian $\underline{S}$s). The sex distributions were not
representative, there being 16 female Indian $\underline{S}$s and 28 female white $\underline{S}$s. Analysis
of survey data by sex indicated that this bias in the white sample would slightly

increase differences between populations for monetary values and group names, and decrease those for the behavior items; however, sex differences were not significant in the survey.

Materials

The series stimuli were mimeographed slips of paper, each bearing a single item. Order of items in a series was random. The short series of numerals and of dollar values were composed of 50 items ranging at unit intervals from 5 (or $5) to 54 (or $54). The 100 items in long series ranged from 5 (or $5) to 104 (or $104).

The short series of behavior items and group names each contained 25 items and the long series 50 items. The short series of behavior items consisted of actions largely acceptable to both populations, with a few intermediate. Additional items in the long series ranged through intermediate to very unfavorable scale values.

To secure a sufficiently large number of group names, Bogardus' findings (1946) were used as supplementary to the survey, and the pool was further increased by adding a parenthetical "place of birth." The short series contained 16 groups based on some variant of those in Bogardus' upper quartile of ranks. The remainder were either intermediate in Bogardus' ranks or more acceptable to Indian than non-Indians on the survey (e.g. Mexican). The long series added to these another 25 groups representing variants of Bogardus' lower ranks.

Procedure

The stimulus material for the first series to be categorized was given to $\underline{S}$ with the following instructions:

> Your task is to sort the slips of paper into piles. Please look

through the entire packet so that you will know what is in it.

The instructions which followed depended upon the content of items sorted first.

Dollar values: S was told to imagine that he was going to a store to buy a warm topcoat, and that each slip of paper was a price tag on a coat. His task was to sort through the tags trying to decide which coat to buy, with only the price as a basis for decision.

You can sort them into any number of piles you choose. If you find any prices in your stack which you think are Too Cheap to buy, pile them on the blank card at your left. If you find any prices that are way too high for you, that are simply Prohibitive in price, pile them on the blank card at your right. Sort the other cards into as many or few piles as you like to show how you would if you were trying to decide which coat to buy.

Behavior items: S was told to sort the actions described in terms of how acceptable each was. The end categories specified if S wanted to use them were for "perfectly acceptable...perfectly all right" actions and for "completely unacceptable...the worst sort of thing you can think of."

Group names: S was told to sort the names of "groups of people" in terms of how acceptable they were as close personal friends. One optional end category was for names "completely acceptable to you" and the other for those "completely unacceptable to you."

Final instructions were identical for all series, including the series of numerals:

Decide on the piles you use on the basis of which slips seem to belong together. Do not be concerned about how many are in the piles. If you change your mind, please feel free to re-arrange things.

After S completed judgment of a series to his own satisfaction, he was

instructed to label, in turn, "the one pile which has the slips that are most
acceptable to you," any other pile or piles also "acceptable to you," the one
pile "most objectionable to you," and any other pile or piles also "objectionable
to you." S then numbered his categories from left to right to insure that they
would not become mixed.

Each series was sorted with the above procedures in turn, the order of
series being varied as previously indicated. As the last task, the number series
was judged, S being told to sort so that the smallest numbers were at his left
and the largest numbers at his right. Otherwise, instructions were identical with
those common to the other series.

Experimental Results

Use of Optional End Categories

The experiment was designed with the assumption that the series presented
by E would not always accord with S's own scale for judgment. Since the instruc-
tions left S free to use or not to use extreme end categories provided, omitting
these available categories indicates lack of fit between his established own
scale and a particular series of stimulus values, and the role of his own cate-
gories in limiting the "relativity of judgment" determined by immediate situations.

Table 1 here

Table 1 gives the proportions of Ss who did not choose to use one or more
of the end categories available in instructions in judging the short or long
series of the four sets of items. Most white Ss judging the short series of

Table 1

Subjects Omitting End Categories Provided in Instructions

	N	Item Content			
		Numerals	Dollars	Behavior	Groups
		%	%	%	%
White Ss judging:					
Short series	16	00	93.7	81.2	75.0
Long series	16	00	0	0	12.5
Indian Ss judging					
Short Series	20	00	20.0	65.0	65.0
Long Series	20	00	0	0	15.00

monetary values did not use the "Prohibitive" category. The four Indian $\underline{S}$s who omitted an end category left out the "Too Cheap" end. A majority in both samples omitted the extremely objectionable classification in evaluating the short series of behavior items and group names. However, the only $\underline{S}$s failing to use this category for the long series left out the "completely unacceptable" category in dealing with group names.

The proportions in Table 1 for the series of group names include two white and three Indian $\underline{S}$s who categorized all groups in a single acceptable category, one from each sample being $\underline{S}$s who judged the long series. Proportionally, this compares with the finding in the survey that approximately 10 per cent refrained from differentiating among groups in their ratings on 11 cm. scales (cf. Sherif and Sherif, 1960).

Number of Categories Used

Table 2 presents the mean numbers of categories used by $\underline{S}$s judging the four series of items in short and long versions. The differences among means were tested for significance in a Lindquist Type III analysis of variance (1953, pp. 281-284) after preliminary tests revealed no basis for rejecting the homogeneity of variance assumption. Table 3 presents the summary of the analysis. All of the

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Tables 2 and 3 here

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main effects are significant and were, therefore, further analyzed by partitioning the appropriate variances into individual degrees of freedom for orthogonal comparisons (Li, 1957, p. 360. For details of the comparisons and the weighting coefficients used, see C. Sherif, 1961).

Table 2

Mean Number of Categories Used by Subjects

	Item Content			
	Numerals	Dollars	Behavior	Groups
White Ss judging:				
Short series	4.63	4.00	3.69	3.31
Long series	4.69	4.81	4.94	3.81
Indian Ss judging:				
Short series	4.25	3.55	3.30	2.75
Long series	4.55	4.15	3.75	3.60

Table 3

Summary of Analysis of Variance: Mean Number of Categories

Used by 32 White and 40 Indian Subjects

Source	Sum of Squares	df	Mean Square	F	P
Between Ss:					
Population	17.56	1	17.56	4.98 <.05	
Series Length	25.67	1	25.67	7.27 <.01	
Population x Length	44.23	1	44.23	12.53 <.001	
Residual (b error)	240.04	68	3.53		
Within Ss:					
Item Contents	51.00	3	17.00	17.02 <.001	
Items x Population	36.25	3	12.08	12.09 <.001	
Items x Length	28.14	3	9.38	9.39 <001	
Items x Length x Pop.	10.58	3	3.53	3.53 <.05	
Residual (w error)	2.03	204	.9995		
Total	455.50	287			

The means in Table 2 indicate that, on the whole, Indian $\underline{S}$s used fewer categories than white $\underline{S}$s, more categories were used for long than short series, and there is a trend toward fewer categories with increasing social significance of the items.

Population differences: Are the differences in number of categories used by Indian and white $\underline{S}$s significant when the series is motivationally neutral? The single degree of freedom for population was used to test the significance of the small difference between means for categorization of the series of numerals. Since the resulting F was not significant (p $>$ .05), we may infer that the social materials are the sources of the main effect for population.

Short and long series: More categories were used in judging a long series than the corresponding short series. The individual degree of freedom associated with series length was used to determine whether $\underline{S}$s, on the average, used significantly more categories for the long than the short series of numerals. Since the resulting F was less than unity, we may conclude that they did not, and the significant main effect for series length stems from the use of more categories in judging the long series of social items. Since the long series contained twice as many items as the short, the hypothesis is supported that category widths for a neutral series vary directly with series length, being approximately twice as wide for the longer series.

Item content and absolute number of items: The first hypothesis predicted variation in number of categories as a function of social and personal significance of the items. Rank of the three sets of social items in this respect was determined through least-squares estimates of scale values for importance of the sets, based on paired-comparison judgments made by $\underline{S}$s just before the experiment,

judgments of difficulty after the experiment, and observational data. The order of importance thus determined from most to least significant was: group affiliation, how one behaves, and the quality of one's clothing.

However, tests of the first hypothesis must take into account differences in absolute number of items in the various series. There were constant differences between number of items in series of numerals and dollar values, on the one hand, and behavior and group items on the other.

The 3 degrees of freedom for item content were partitioned for orthogonal comparisons among means for series which did not differ in number of items, but did differ in social significance (i.e. numerals and dollar values, behavior items and group names). The remaining comparison was made between two series with social significance but different numbers of items.

Significantly fewer categories were used, on the average, for judging dollar values than a comparable neutral series of numerals ($p < .05$, 1 and 204 df.). Likewise, significantly fewer categories were used for evaluating ethnic groups than for behavior descriptions, each series containing the same number of items ($p < .01$, 1 and 204 df.). However, the mean number of categories used for dollar values and behavior descriptions, both social series, did not differ significantly, indicating that absolute number of items was not the crucial determinant.

Individual consistency in number of categories used: Differing numbers of categories were used for the four series despite a conflicting tendency for $\underline{S}$ to deal with all series with the same number of categories. The significance of this tendency, which is most readily interpreted as a task set in the present design, was assessed by computing the intra-class correlation using the two residuals (McNemar, 1955, p. 280). The resulting coefficient of .388 is significant ($F=3.53$, $p < .001$, 68 and 204 df.).

Category Limits for Judgments of Numerals and Dollar Values

The third hypothesis predicted differences in categorization of two series in numerical form, specifying that category limits for a numeral series would reflect decimal division of the series while those for dollar values would reflect latitudes of acceptance for expenditures.

Despite the differing numbers of categories used, certain category designations were comparable for all $\underline{S}$s: His first category (numbered "1"), his last category, categories for dollar values labeled "most acceptable" and "acceptable," those labeled "prohibitive," and other "objectionable" labels. Category limits or transition zones were computed for judgments of the numerals and dollar values (Johnson, 1955, pp. 330-337) and the "center" of each $\underline{S}$'s scale, that is the limit between the two middle categories if $\underline{S}$ used an even number or the midpoint of the middle category if $\underline{S}$ used an odd number (Johnson, 1955, p. 343).

The two bar diagrams of Figure 1 summarize the results for category designations common to Indian and white $\underline{S}$s who judged the short and long series of numerals and dollar values (baseline). Estimates of the latitudes of acceptance (minimum and maximum prices) for white and Indian $\underline{S}$s from the survey are given below the baseline.

Figure 1 here

Analysis of variance was performed on the upper limit of the first category. Bartlett's test for homogeneity of $\underline{k}$ variances with unequal degrees of freedom (Edwards, 1960, p. 127) resulted in a chi square of 12.84 ($p < .005$). The heterogeneity of variances limited the usefulness of the analysis of variance. Therefore, in testing the significance of differences in Figure 1, the $\underline{t}$ test for
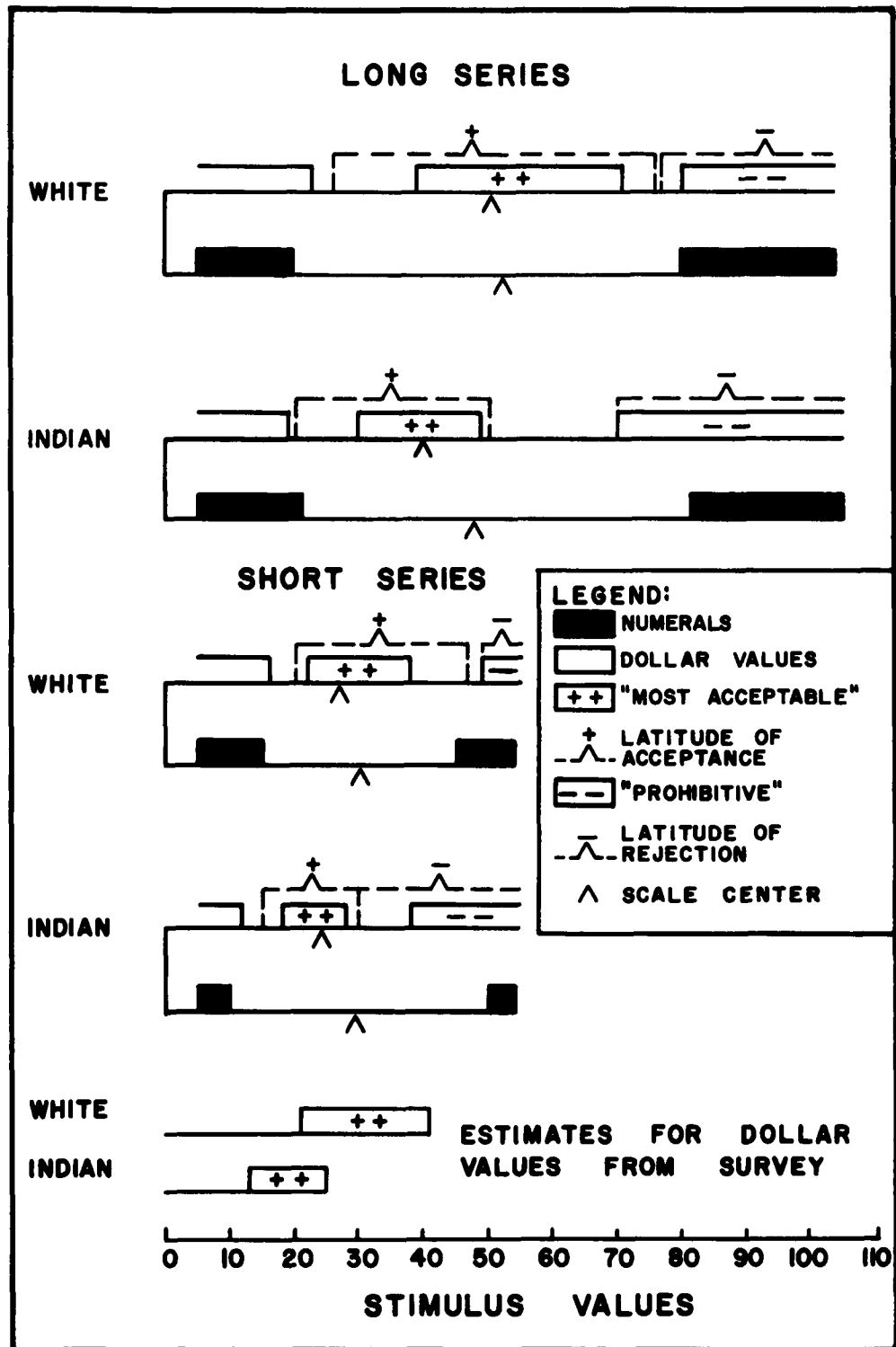
Fig. 1. Categories used by white and Indian Ss for neutral and social items in series with short range (below) and long range (above).

related samples was used in comparing measures from the same individuals (numeral and dollar values) and the Mann-Whitney U statistic in between samples comparisons.

The difference between the lower limits of the last category for Indian $\underline{S}$s judging the short series of numerals (50) and dollar values ($38) is significant ($p < .001$, one-tail, 19 df.), as are differences between their scale centers and the limits of the last categories for the long series of numerals and dollar values ($p < .01$, 19 df. in each case).

Indian and white $\underline{S}$s do not differ significantly in their category limits or scale centers for judging either the short or long neutral series (numerals). There are, however, striking differences in their handling of the dollar values. Both for short and long series of dollar values, the scale centers and limits of the last categories are significantly lower for Indian $\underline{S}$s than for white $\underline{S}$s ($p < .025$, one-tail in each case). The comparison between the last categories for the short series is sheerly numerical, since most Indian $\underline{S}$s defined the end category as "prohibitive" and most white $\underline{S}$s defined it as merely "expensive," as indicated in Figure 1.

The lowest acceptable prices are not significantly different for the two samples. However, the highest acceptable prices and the correlated lowest objectionable price are significantly lower for Indian than white $\underline{S}$s judging both short and long series ($p < .025$, one-tail in each case).

Length of Numeral and Monetary Series

The most typical solution to the task of categorizing the short series of numerals was to use narrow end categories in order to achieve equal numbers within decimal division of the intermediate values. Similarly, the typical solution for the long series involved piles of 20 numerals in intermediate categories, necessitating a slightly narrower first category and slightly broader last category.

The differences between short and long series in Figure 1 are in every case significant. For the numeral series, this result follows logically from the prior finding that the number of categories used for short and long series did not differ significantly. The categories were simply broader for the long series, as the second hypothesis predicted.

As Figure 1 shows, the general effect of the long series of dollar values was a higher level of the most acceptable prices (++) and a broader latitude of acceptance (+). However, predicted differences between white and Indian $\underline{S}$s were maintained and even accentuated. Notably, Indian but not white $\underline{S}$s used a "buffer zone" of unlabeled categories (neither acceptable nor objectionable) between their latitudes of acceptance and rejection. This gap of $20 is a significant difference ($p < .02$, 19 df.).

Evidence of a Contrast Effect

The series effect revealing a higher level of acceptability is opposite in direction to the "contrast" effect predicted to the extent that the series exceeded the latitude of acceptance. No contrast effect was expected for white $\underline{S}$s judging the short series of dollar values, which just exceeded the value of the maximum price acceptable to 75% of white respondents in the survey. A contrast effect would result when $\underline{S}$ ceased to discriminate among values discrepant from his latitude of acceptance and accumulated them in the extremely objectionable category. Thus the measure of the contrast effect was the frequency of items placed in the extremely objectionable category.

A test of the hypothesis had to adjust for the dependence of the distribution of judgments upon the number of categories $\underline{S}$ used. Therefore, an equal frequency distribution of items was computed for each $\underline{S}$ in terms of the number of categories he used. Then the differences between an equal frequency and the obtained frequenc

of items in the first, last and mean of the intermediate categories were obtained

for each $\underline{S}$, their significance being tested by $\underline{t}$ tests for related measures.

Table 4 here

Table 4 shows the means for the differences between obtained and equal

freouencies in the last category for judgments of numerals and dollar values. As

predicted, the differences for the series of numerals are near zero in each condi-

tion, as is that for white $\underline{S}$s judging the short series of dollar values. The trend

is as expected, the difference for Indian $\underline{S}$s judging the long series indicating a

significant over-accumulation of items in the last category ($p < .005$, one-tail,

19 df.). On the average, Indian $\underline{S}$s placed almost a third of the items in the long

series in the extremely objectionable category.

Category Widths for Judgments of Verbal Series

Figure 2 shows the number of behavior items and group names included in the

most accentable, acceotable, unlabeled, objectionable and most objectionable cate-

gories by 50 per cent or more of the $\underline{S}$s in each condition. As exoected from the

survey data summarized earlier, differences in number of behavior items olaced in

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Figure 2 here

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different categories by Indian and white $\underline{S}$s are small and not significant.

The latitudes of acceptance for group names are extremely broad, as the limited

range of scale values from the survey would indicate. Frequencies of items in the

Table 4

Differences Between Equal and Obtained Frequencies in Last Category

	Numeral Series Obtained f – Equal f $\bar{X}$	Monetary Series Obtained f – Equal f $\bar{X}$
Short series:		
White Ss	+ 1.3	– 0.1
Indian Ss	– 0.3	+ 4.3
Long Series		
White Ss	+ 0.4	+ 4.1
Indian Ss	+ 0.9	+ 10.3 *

* $p < .005$, one-tail, 19 df.
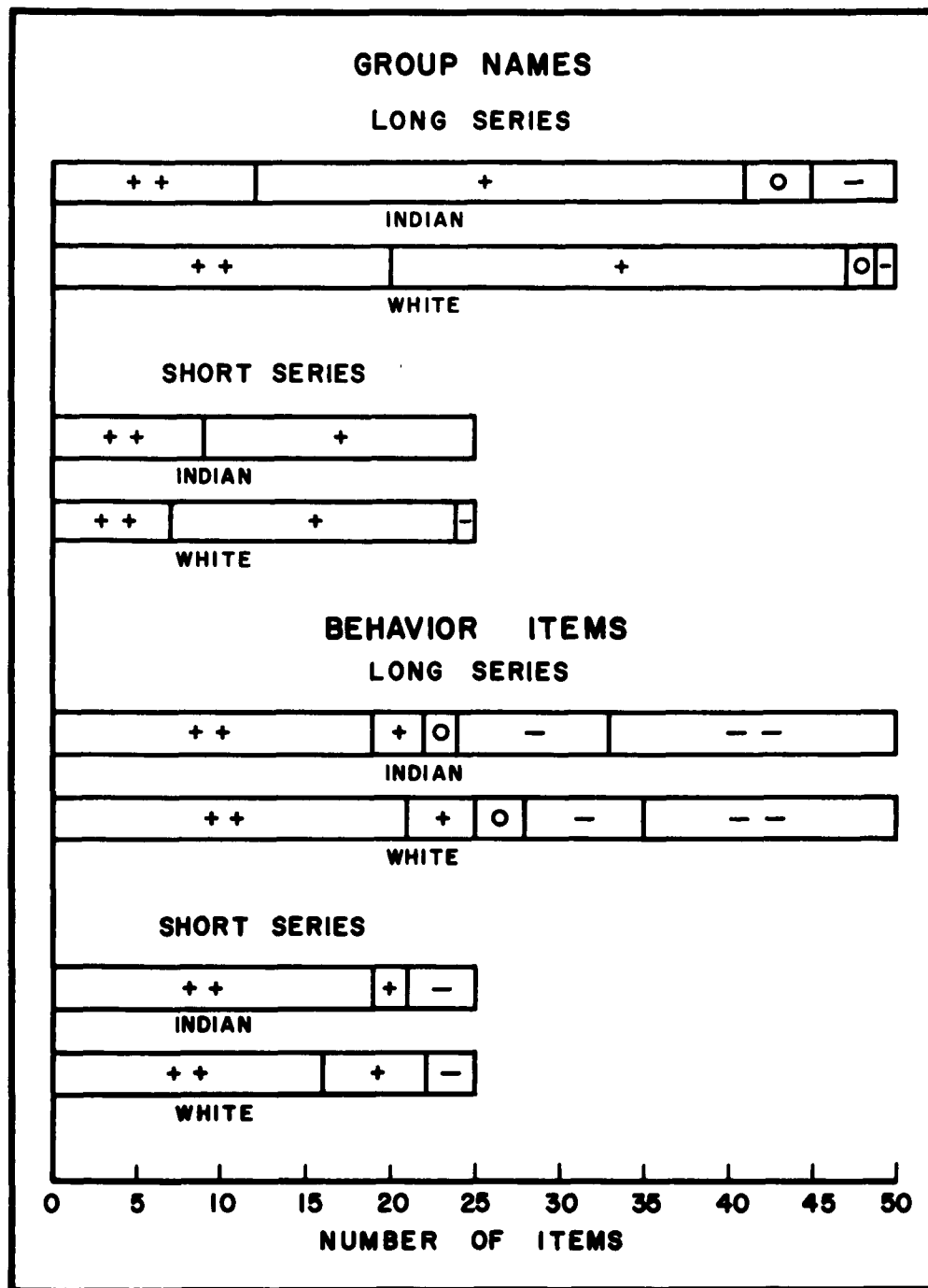
Fig. 2. Frequencies of behavior descriptions (below) and group names (above) in evaluative categories used by white and Indian Ss.

categories are similar for the two samples judging the short series, but Indian $\underline{S}$s judging the long series placed significantly more groups in objectionable or un-labeled categories and fewer in the most acceptable categories than white $\underline{S}$s (x^2=5.07, p < .05, 2 df. two-tailed).

For a more stringent test of the differences in response to the long series of groups, the number of items placed in the most objectionable category by each $\underline{S}$ was counted and subtracted from that frequency representing equal division of the items into the number of categories he used. These discrepancies for white and Indian $\underline{S}$s were then compared using the Mann-Whitney U statistic. Indian $\underline{S}$s judging the long series of groups did tend to use the most objectionable category with greater relative frequency than white $\underline{S}$s judging the same series (p < .05).

Series Effects in Categorizations of Verbal Stimuli

The dependence of evaluative judgments of specific actions upon their context is well known. Therefore, the extent of a series effect for the behavior items is a useful basis of comparison with that for the series of ethnic groups. A series effect was measured by differences in the relative frequencies with which items appearing in both short and long series were categorized within the lati-tude of acceptance, as entirely acceptable, or within the latitude of rejection.

In Figure 3, the mean percentages of white $\underline{S}$s placing items within their latitudes of acceptance or rejection are plotted against the mean scale values of the respective behavior items. The comparable plot for Indian $\underline{S}$s is shown in Figure 4. The scale values are those estimated separately for the two populations
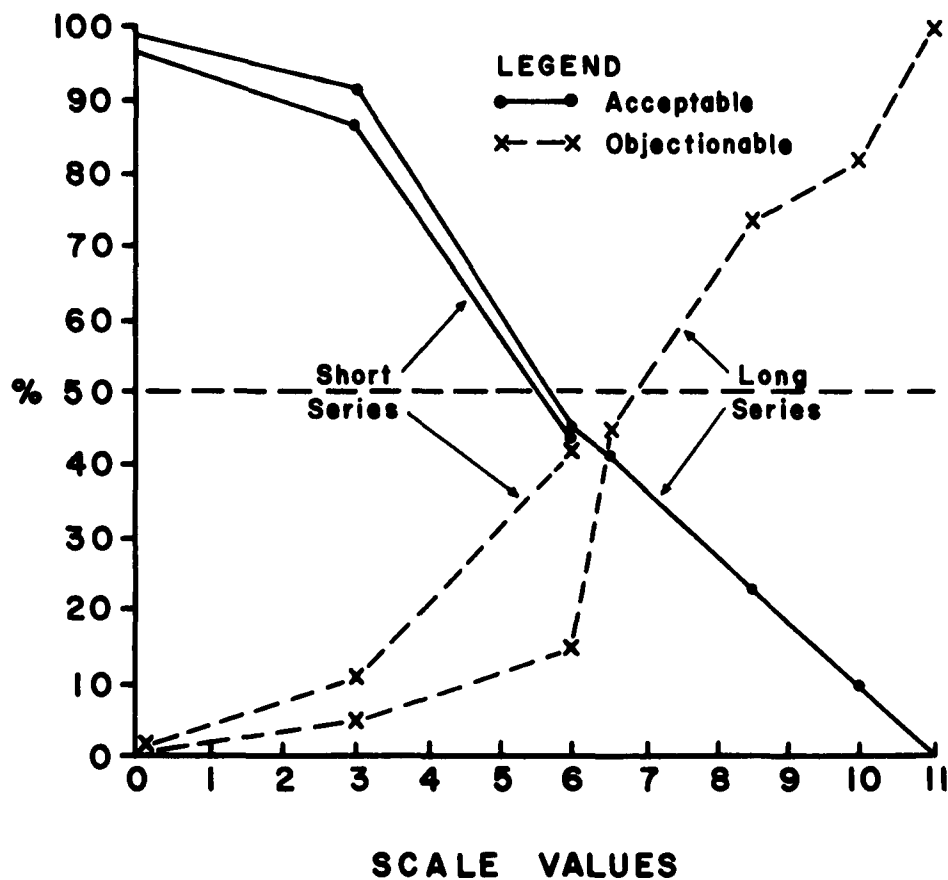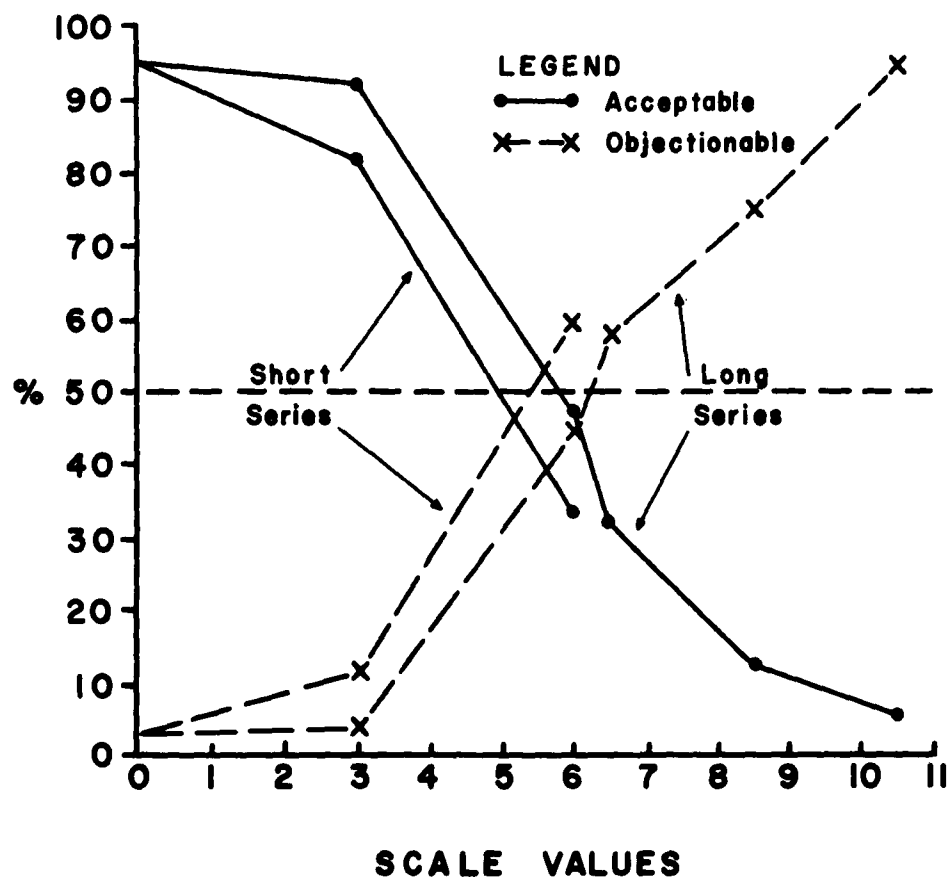

Figures 3 and 4 here

Fig. 3. Mean percentages of white Ss accepting and rejecting behavior descriptions with different scale values (independently estimated).

Percentage using unlabeled categories at each scale value equals 100 - (% acceptable + % objectionable).

Fig. 4. Mean percentages of Indian S̲s̲ accepting and
rejecting behavior descriptions with different scale
values (independently estimated).

Percentage using unlabeled categories at each
scale value equals 100 - (% acceptable + % objectionable).

from the survey. The solid line (acceptances) and broken line (rejections) which terminate at scale value 6 represent the short series, while those covering the entire domain represent the long series. Mean percentages of noncommittal (unlabeled) placements for each scale value may be obtained by subtracting the total acceptances and rejections from 100.

In both figures, differences between the short and long series are in the expected direction, that is moderate items were more often rated acceptable and less frequently objectionable in the long series. None of the differences between the independent proportions plotted at each scale value is significant $(p > .05$, with the pooled proportion of acceptable categorizations being used to estimate P; Edwards, 1960, pp. 40 f.). The possibility of significant differences within the latitude of acceptance was checked by comparing the proportions placing items in the "completely acceptable" category for the two series lengths. Again, differences are in the direction expected for a series effect----higher proportions of "most acceptable" judgments of the long series----but none is significant.

In comparison, series effects in evaluating the ethnic groups were quite large for white $\underline{S}s$, and the data reveal pronounced differences between the samples. The analysis is necessarily based on the 16 groups for which scale values were available from the survey.

In Figures 5 and 6, the mean percentages of white and Indian $\underline{S}s$ placing the groups within their latitudes of acceptance and rejection are plotted against the

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Figures 5 and 6 here

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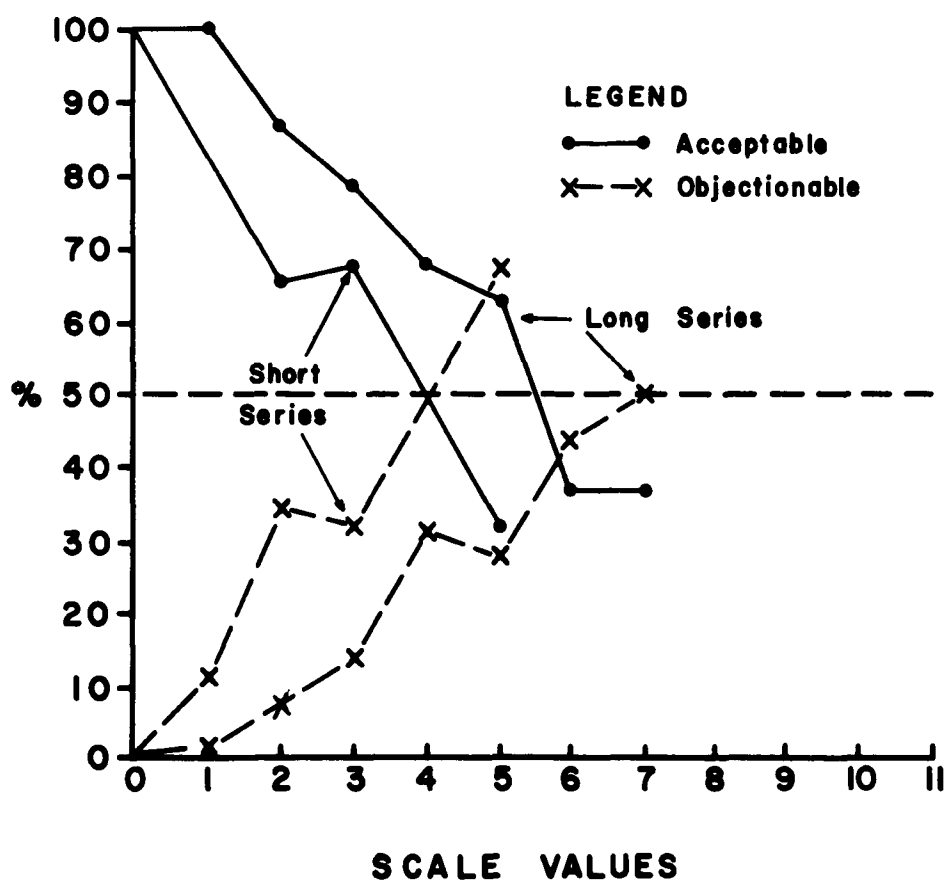scale values obtained in the survey of the two populations. Nine items appeared

Fig. 5. Mean percentages of white Ss accepting and
rejecting ethnic or national groups with different scale
values (independently estimated).

Percentage using unlabeled categories at each
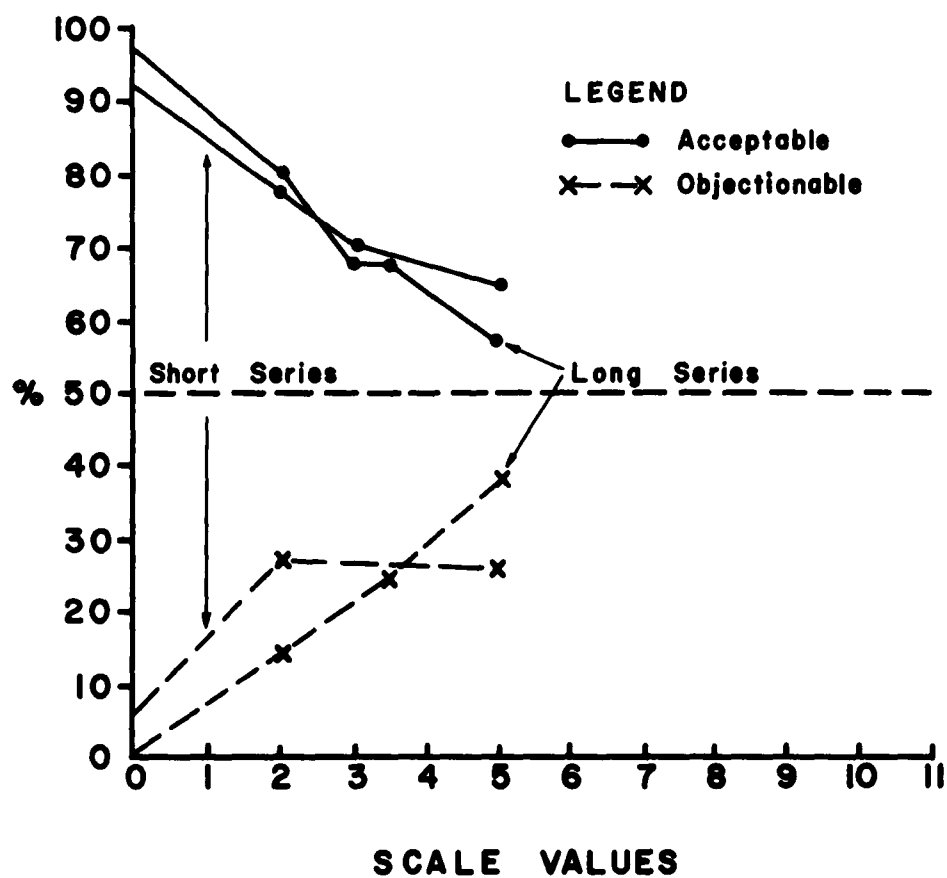scale value equals 100 - (% acceptable + % objectionable).

Fig. 6. Mean percentages of Indian Ss accepting and
rejecting ethnic or national groups with different scale
values (independently estimated).

Percentage using unlabeled categories at each
scale value equals 100 - (% acceptable + % objectionable).

in both short and long series, but the scale values of these items were different for the two populations. Using their own scale values as the baseline, the tendency of white $\underline{S}$s to reject groups with scale value 5 more frequently in the short than the long series is significant ($p < .05$) and that to reject groups with scale values of 2 approaches significance ($p < .06$).

Table 5 gives the rank orders of the 9 groups common to both series, as well as the 7 appearing only in the long series, based on the percentages of $\underline{S}$s in each condition categorizing these groups as completely acceptable. The ranks are divided at the quartiles. Three outcomes are evident: (1) The rank orders are

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Table 5 here

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remarkably consistent with independently estimated scale values, particularly in view of the large variability of these scale values. (2) Rankings of the 16 groups by white and Indian $\underline{S}$s in the long series are not significantly correlated. (3) A considerable tendency toward greater acceptance in the long series for the 9 groups common to both series is evident.

Table 6 here

As Table 6 shows, the shift toward the most acceptable category in the long series is significant for white $\underline{S}$s, suggesting a tendency for them to assimilate groups to their extremely broad latitude of acceptance which recent trends toward tolerance encourage. Indian $\underline{S}$s responded less to differences in series length of group names than in series of behavior items, and much less than white $\underline{S}$s. When

Table 5

Rank Order of Group Names

Based on Percentages of White and Indian $\underline{S}$s Placing

Each Name in "Completely Acceptable" Category.[*]

White $\underline{S}$s		Indian $\underline{S}$s	
Short Series	Long Series[**]	Short Series	Long Series[**]
White nat. born (0) 75%	White nat. born (0) English (1) Irish (1) American Indian (2) Norwegian (2)	American Indian (0) White nat. born (0)	American Indian (0) Spanish-speaking American (0) White nat. born (0)
English (1) 50%	Spanish-speaking American (3) Italian (3)	Spanish-speaking American (0) English (0) Mexican (0) Italian (2)	English (0) Mexican (0) {Italian (2) {American Jew (5)
Irish (1) Norwegian (2) American Indian (2) Spanish-speaking American (3) 25%	German (3) Mexican (5)		{Japanese (2) {American Negro (4) {Irish (3) {Norwegian (5)
German (3) Italian (3) Mexican (5)	{American Jew (5) {Japanese (5) {Arab (5) {Chinese (5) {American Negro (5) {Russian (6) {African Negro (7)	Irish (3) German (3) Norwegian (5)	{German (3) {Chinese (3) African Negro (5) {Russian (5) {Arab (5)

* Scale values from survey data in parentheses. Tied ranks indicated by brackets. Note that only 9 of the 16 names appeared in the short series.

**Spearman rho, .406, corrected for ties. t=1.66, p > .10, 14 df.

Table 6

Mean Percentages Placing Ethnic Groups with Different Scale Values in the

"Completely Acceptable" Category

| Mean Scale Value | No. of Items | White Ss | | | No. of Items | Indian Ss | | |
		Short Series	Long Series	Diff.		Short Series	Long Series	Diff.
		%	%	%		%	%	%
0	1	100.0	100.0	0.0	5	73.0	80.0	+ 7.0
1	2	50.0	90.6	+40.6*	-	-	-	-
2	2	37.5	78.1	+40.6*	1	47.5	47.5	0.0
3	3	29.1	47.9	+18.8**	2	17.5	27.5	+10.0
5	1	12.5	37.5	+25.0	1	15.0	35.0	+20.0
	N	16	16			20	20	

* p < .005

** .05 > p < .10

their categorizations of all groups on the long series are considered, however, it is evident that Indian $\underline{S}$s reacted more than white $\underline{S}$s to remote, less familiar groups included in that series by putting them in a completely unacceptable category. A related finding is that Indian $\underline{S}$s categorized the same group names quite differently when labeled U. S. born and when labeled natives of their countries, while white $\underline{S}$s did not (the one exception being Negro, U. S. or Africa). For Indian $\underline{S}$s, the label U. S. raised the proportion of acceptances close to 100 per cent even for groups traditionally low on the social distance scale in the United States.

Discussion

Ordinarily, investigations of social judgment specify for $\underline{S}$ the number of categories, their labels and even the distribution of items into the categories. By taking the number, kind and width of categories used by $\underline{S}$ without restrictive instructions as the dependent variables, this study has confirmed several "obvious" conclusions which are too often ignored, despite their implications for methodology.

When individuals face the task of evaluating objects which they have frequently assessed, they have categories which they can apply readily. As students of accredited high schools, both Indian and non-Indian $\underline{S}$s in this study spontaneously used similar numbers of categories for judging a neutral series, regardless of its length, and distributed items as evenly as possible into the categories, although not instructed to do so. However, these characteristics were not found when the items were socially significant.

When $\underline{S}$ faces social items bearing on his wants, status, his acceptance or rejection of others, his task is not at all neutral. Certain sub-sets are familiar and acceptable to him; others are unfamiliar, strange or objectionable to him. When instructed to evaluate a particular sub-set using a certain number of categories and distributing the items in a certain fashion, he may oblige; but he has

difficulties, he objects, he fails to follow instructions to the extent that his own categories diverge from the requirements (cf. also, McGarvey's reports of her S̲s, 1943, pp. 39, 51, 56-57). Under these circumstances, experimental results may be more pertinent to S̲s ability to adapt to E̲'s requirements than to judgment outside the laboratory when S̲ makes important decisions. Procedures imposing specified numbers or kinds of categories and rectangular or normal distributions of items are designed for E̲'s convenience in treating the data in conformity with a predetermined statistical model, not by the empirical nature of social judgment.

The results of this study show that S̲'s latitude of acceptance does affect his decision concerning the number and kind of categories to use in judging a particular series, with the result that category widths are unequal and distributions of judgments skewed whenever the series fails to coincide with that familiar range acceptable to him. As in any judgment task, S̲ is responsive to the range of stimulus values he faces. But the role of his established categories is, if anything, most clearly revealed when he faces values representing the domain of a set, with many discrepant from his own latitude of acceptance.

Although not restricted by instructions, S̲s did not discriminate finely in making social evaluations. There are, of course, linguistic limits on evaluative distinction, but these are constant for different sets of objects. Additional limitations on evaluative categories may be related to the differential schemes of treating the objects or behaviors in the individual's social surroundings, e.g. discriminations relative to various human groups. In this sense, restriction of evaluative categories available to the individual is probably characteristic.

The results of this research suggest that the complex interactions involved when an individual adapts his established categories for evaluation to different ranges of social stimuli may result in raising or lowering the general level of

acceptance, and also produce differences in category widths through the scale. The latter is an essential datum for predicting S's response to stimulus values in a given segment of a set, for example, when individuals will assimilate hitherto objectionable or novel stimuli and at what point their rejection will be, for the time being, intense and complete. Such predictions increase in importance today as members of human groupings with different norms and vital interests face one another in negotiations, bargaining and conflict.

Summary and Conclusions

The categorization process was investigated as a function of the latitudes of acceptance prevailing in two sociocultural settings, the range of the stimulus series presented for judgment, and the social significance of the objects. Data from a survey in two high schools attended by American Indians and by non-Indians were a basis for independent estimates of prevailing latitudes of acceptance and scaling verbal items for each population.

In the experiment, the dependent variables were number, width and kind of categories $\underline{S}$ used when free to select categories and use them as he saw fit. These measures were compared for neutral series of numbers and the same numbers presented as monetary values, for series of brief descriptions of social behavior and of ethnic or national groups, and for two ranges of values for each of these item contents. The following generalizations were supported:

1. The number of categories varies with the social and personal significance of the objects, more categories being used for neutral than for socially signifi-cant objects.

2. Series of numerals (neutral) are categorized similarly by Indian and white $\underline{S}$s of comparable educational level, but series of monetary values are not, the differences reflecting latitudes for acceptable expenditures in the two popula-tions.

3. In categorizing social objects, discrimination is keenest when the series contains largely acceptable items. Intermediate stimulus values are more frequently categorized as acceptable and less frequently rejected when they appear in series representing the domain of the set----the well-known series effect. However, accompanying the series effect, differences between populations are maintained and even accentuated.

4. Wider categories (approximately doubled) are used throughout the judgment scale in categorizing a long series of neutral items than a series with half its range. However, series of social objects representing a domain are apportioned among categories extremely unequal in width, the inequalities being predictable from $\underline{S}$'s latitude of acceptance relative to the series he judges.

> a. A narrow latitude of acceptance relative to the range of a series results in excessive use of the extremely objectionalbe category (revealing a "contrast effect").
>
> b. A broad latitude of acceptance relative to the range of a series intensifies the series effect (revealing "assimilation" of stimuli throughout the scale to more acceptable categories).

Systematic study of number and width of categories throughout evaluative judgment scales is indicated, if the aim is prediction of reactions to specific stimulus values.

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Notes